



**Proposed Outline
Groundwater RI/FS
Alameda Point (OU-5) and Alameda Annex**



Prepared For:

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**Proposed Outline
for:
FOCUSED GROUNDWATER RI/FS,
ALAMEDA POINT (OU-5) AND ALAMEDA ANNEX**

Executive Summary

1. Introduction

- 1.1 Purpose of Report
- 1.2 Site Background
 - 1.2.1 Site Description
 - 1.2.2 Site History
- 1.3 Report Organization

2. Previous Investigations Pertaining to Groundwater

- 2.1 Alameda Point (OU-5; IR-25)
- 2.2 Fleet and Industrial Supply Center, Alameda Annex (IR-02)
- 2.3 Combined Alameda Point/Alameda Annex Investigations
- 2.4 Objectives/Rationale for Previous Groundwater Investigations

3. Physical Characteristics of the Study Area

- 3.1 Surface Features
- 3.2 Soils
- 3.3 Geology
- 3.4 Hydrogeology
- 3.5 Utilities
- 3.6 Groundwater Beneficial Use

4. Nature and Extent of Contamination

- 4.1 Results of Site Characterization
 - 4.1.1 Soils Contamination as Related to Groundwater
 - 4.1.2 Possible Contaminant Sources
 - 4.1.3 Groundwater Contamination
 - 4.1.4 Soil-Gas

4.2 Summary: Nature and Extent of Contamination

5. Contaminant Fate and Transport

- 5.1 Possible Routes of Migration
- 5.2 Contaminant Persistence
- 5.3 Contaminant Migration
- 5.4 Summary of Groundwater Fate and Transport

6. Risk Assessment

- 6.1 Human Health Evaluation
- 6.2 Environmental Evaluation
- 6.3 Summary: Risk Assessment

7. Identification and Screening of Technologies

- 7.1 Groundwater Remedial Action Objectives
 - 7.1.1 Groundwater Contaminants of Interest
 - 7.2.2 Allowable Exposure Based on Risk Assessment
 - 7.2.3 Groundwater Remediation Goals
- 7.2 General Response Actions
- 7.3 Identification and Screening of Technology Types and Process Options
 - 7.3.1 Identification and Screening of Technologies
 - 7.3.2 Evaluation of Technologies and Selection of Representative Technologies
- 8. Development and Description of Remedial Alternatives
 - 8.1 Alternative 1 – No Action Alternative
 - 8.1.1 Description
 - 8.1.2 Evaluation
 - 8.2 Alternative 2 –Monitored Natural Attenuation
 - 8.2.1 Description
 - 8.2.2 Evaluation
 - 8.3 Alternative 3 – TBD
 - 8.3.1 Description
 - 8.3.2 Evaluation
- 9. Detailed Analysis of Alternatives
 - 9.1 Individual Analysis of Alternatives
 - 9.1.1 Alternative1 – No Action
 - 9.1.1.1 Description
 - 9.1.1.2 Assessment
 - 9.1.2 Alternative 2 –Monitored Natural Attenuation
 - 9.1.2.1 Description
 - 9.1.2.2 Assessment
 - 9.1.3 Alternative 3 – TBD
 - 9.1.3.1 Description
 - 9.1.3.2 Assessment
 - 9.2 Comparative Analysis and Recommended Alternative

References

Appendices

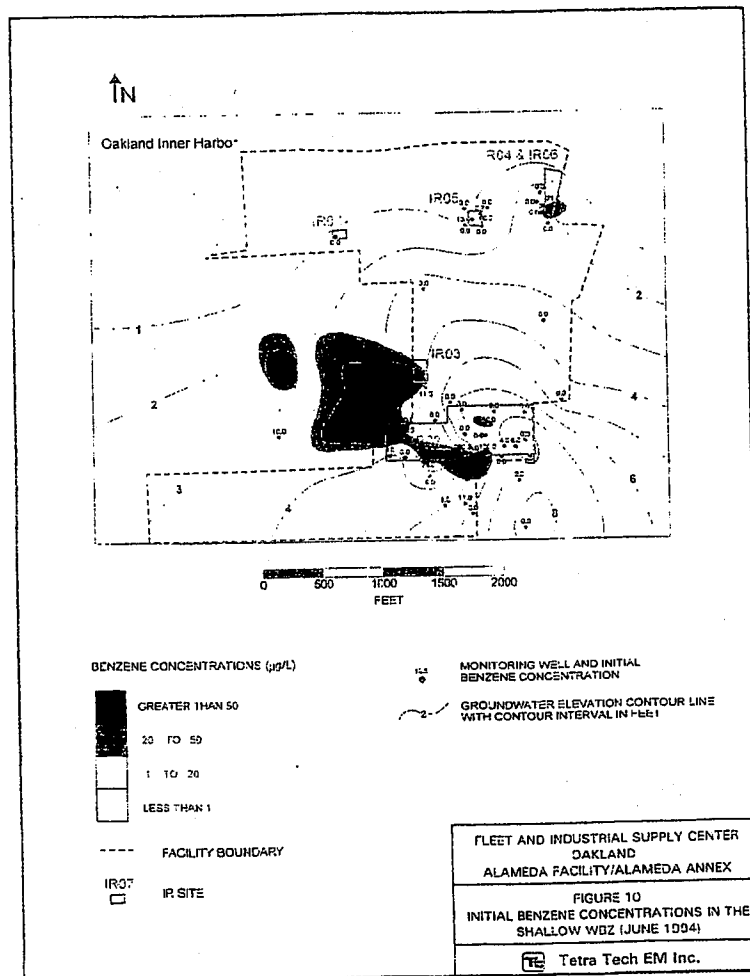
- A. Technical Memoranda on Field Activities
- B. Tabulated Analytical Data
- C. Risk Assessment Methods
- D. RWQCB Memo on Groundwater Beneficial Use
- E. Others....

Figures

Tables



View Northwest of Benzene Plume Area



Alameda Annex Key Documents

Alameda Annex and Screening Lot and Scrapyard, Sampling Results Tech Memo
PRC, February 1993

Final Remedial Investigation, Fleet Industrial Supply Center, Alameda Annex
PRC/Versar, 1996

Final Tech Memo, Groundwater Contaminant Fate and Transport Modeling, FISCO
TtEMI; 10/02/98

Draft Basewide Focused FS for Soil and Groundwater
TtEMI; 11/24/98

Groundwater Beneficial Uses Evaluation, Alameda Annex
TtEMI, 11/02/99

Baseline Human Health Risk Assessment, FISCO
New Fields; 01/14/00

Combined Alameda Point/Alameda Annex Key Documents

Updated Alameda Point/Alameda Annex Benzene Soil-gas Investigation
TtEMI, 10/20/99

Final Feasibility Study for the Marsh Crust and Groundwater at FISCO, and
Feasibility Study for the Marsh Crust and Former Subtidal Area, Alameda Point
TtEMI, 03/31/00

Alameda Point Key Documents

Data Summary Report, Site 25 Remedial Investigation, Alameda Point
TtEMI, 01/29/99

Final Determination of Beneficial Uses of Groundwater, Alameda Point
TtEMI, 07/01/00

Final Comprehensive Guide to the Environmental Baseline Survey
IT, 06/29/01

Draft Field Summary Report for Operable Unit 5 Addendum Activities
IT, 07/23/01

Storm Sewer Study Tech Memo Addendum and RTCs on the Draft Final Storm
Sewer Study Report
TtEMI, 08/30/01

Draft Final Remedial Investigation Work Plan for Operable Unit 5, Alameda Point
Neptune, 05/09/02

Revised Draft Work Plan for Basewide GW Monitoring Program, Alameda Point*
IT; 06/13/02

Draft Final Remedial Investigation, Alameda Point
IT; 07/15/02

* Addresses Alameda Point and benzene-impacted areas of Alameda Annex

Focused Groundwater RI/FS:
Alameda Point and Alameda Annex
ERRG, Oct 2002

Alameda Point/Annex
Key Groundwater Documents


ERRG

Benzene in Shallow G.W. - 1996

(Source: Alameda Annex RI)

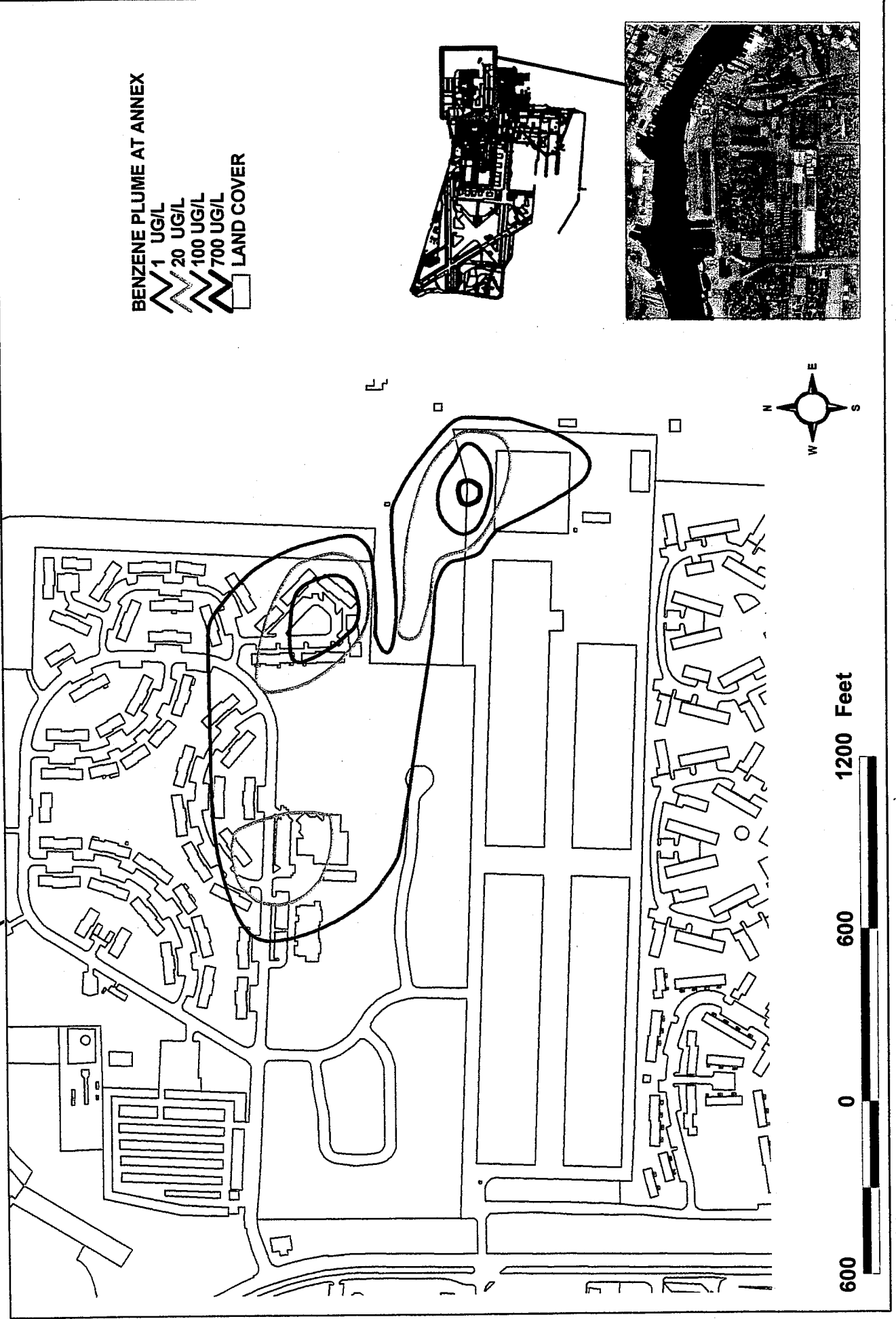
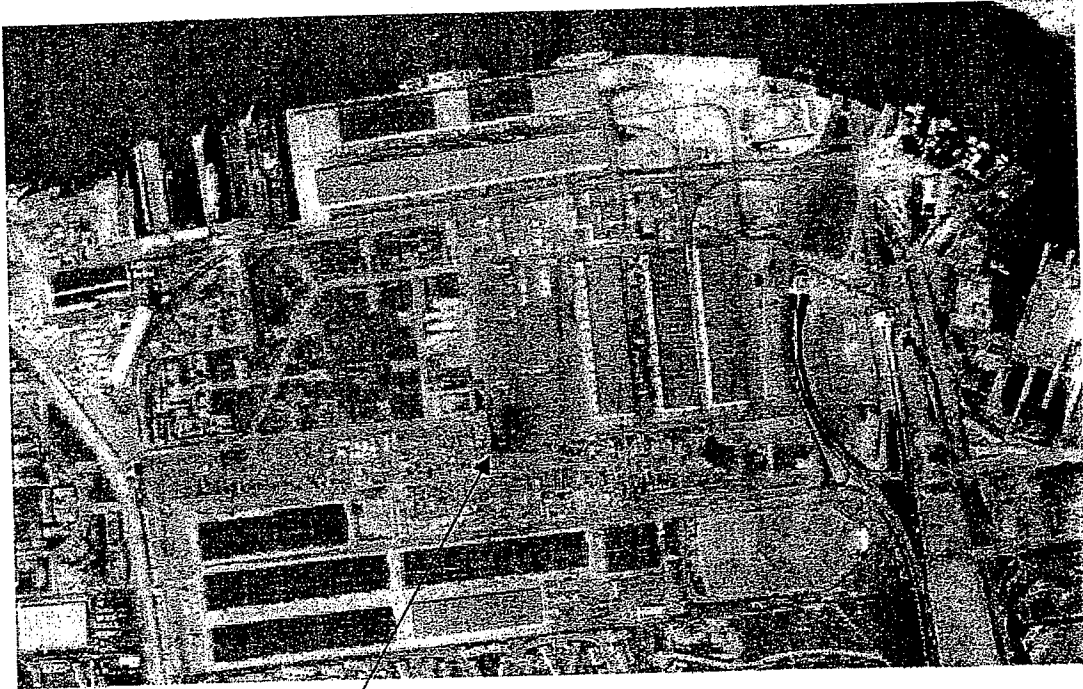


Figure 2-4. 1968 Aerial Photograph Depicting Stain



"Stained" Area

